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ABSTRACT

Compiled in this resource are coding instructions, worksheets, and keypunch sheets for use in the M.E.T.R.O.-APEX simulation, described in detail in documents ED 064 530 through ED 064 550. Air Pollution Exercise (APEX) is a computerized college and professional level "real world" simulation of a community with urban and rural problems, industrial activities, and air pollution difficulties. Persons using these sheets for game play will find it necessary to prepare duplicate copies of many of them, as indicated in the manuals for the game director and various players. (BL)

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ED 075261

CODING INSTRUCTIONS, WORKSHEETS, AND KEYPUNCH SHEETS

FOR M.E.T.R.O.-APEX SIMULATION

Service Division
Environmental Simulation Lab.
The University of Michigan

SE016 100

This document contains coding instructions, worksheets, and keypunch sheets for use in the M.E.T.R.O.-APEX simulation, described in detail in documents ED 064 530 through ED 064 550. Those using these sheets for game play will find it necessary to prepare duplicate copies of many of them, as indicated in manuals for game director and various players.

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INSTRUCTIONS TO COMPUTER OPERATOR

Game Director_____ Date Received_____

Computer Operator_____ Cycle Number_____

ADD CAPITAL PROJECTS AND/OR SPECIAL PROGRAMS_____

***PRESENT IDENT IS "_____"

ENTER NEW DATE_____

TO PRINT APEX FILE CONTENTS_____ _____ _____ _____ _____

TO ENTER VALUES INTO VARIABLE FILES

File	Record	Element	I=1/R=0	Integer	Real
__	___	___	_	_____	_____._____
__	___	___	_	_____	_____._____
__	___	___	_	_____	_____._____

TO SUPPRESS ALL PRINT THIS CYCLE_____

ENTER NUMBERS OF PLAYING DEVELOPERS _ _ _ _ _ _ _ _

ENTER NUMBERS OF PLAYING INDUSTRIALISTS _ _ _ _ _ _ _ _

EXOFIRMS

Exofirm No.	SW 10 Option Force into AA	If Pol's fail to satisfy		If Dev's fail to satisfy	
		Force into AA	Bypass	Force into AA	Bypass

NEW US EMPLOYMENT GROWTH RATE (F5.0) _._____

ENTER ADDITIONAL EXOGENOUS EMPLOYMENT

AA	Ind=1 Bur=2	No. Empl.	Added to Tax Base (F10.0)	Acres (F5.0)
__	_	_____	_____	_____
__	_	_____	_____	_____

PRINT TOMM START PICTURE_____ PRINT TOMM FINAL DIAG PICTURE_____

SUPPRESS PLANNERS TABLES_____

SUPPRESS APCO OUTPUT_____

CHANGE PUBLIC'S SENSIVITY TO ODOR AND SMOKE (5F5.2)

__.__/__.__/__.__/__.__/__.__

PRINT ALL DIFFUSION OUTPUT FOR OPERATOR_____

ENTER 'BACKGROUND' POLLUTION LEVELS (5F6.0)

	Particulates	SO_2	CO	NO_x	HC
Winter	_____	_____	_____	_____	_____
Spring	_____	_____	_____	_____	_____
Summer	_____	_____	_____	_____	_____
Autumn	_____	_____	_____	_____	_____

SUPPRESS DEVELOPERS OUTPUT _____

SUPPRESS INDUSTRIALISTS OUTPUT _____

OVERRIDE AUTOMATIC DIVIDEND CALCULATION_____

	% of Net Worth	% of Net Profit	Cash Carryover	Cash Increase	Dollar Amount
Ind. #1					
Ind. #2					
Ind. #3					
Ind. #4					
Ind. #5					
Ind. #6					
Ind. #7					

SUPPRESS CITY POLITICIAN OUTPUT_____ SUPPRESS COUNTY OUTPUT_____

PRINT JURISDICTIONS __ __ __.

SUPPRESS CITY PLANNER OUTPUT_____ SUPPRESS COUNTY PLANNER OUTPUT_____

PRINT RECOMMENDATIONS FOR JURISDICTIONS __ __ __

SUPPRESS PERCENTAGE DISTRIBUTION CHART_____

SUPPRESS DEVELOPED AND VACANT LAND TALBES_____

SUPPRESS SUMMARY TABLES_____

DATE TO BE PRINTED IN NEWSPAPER IS_____

NUMBER OF COPIES OF NEWSPAPER DESIRED_____

IS THERE AN ELECTION THIS CYCLE_____

PRINT CEM DIAGNOSTICS/CEM RESULTS_____

BYPASS LINKED ISSUES_____

BYPASS PRESET STATE AND NATIONAL ISSUES_____

BYPASS PRESET COUNTY AND LOCAL ISSUES_____

ENTER ISSUE NUMBERS FROM KEYBOARD FROM 1 TO 400, EOF AFTER EACH

_____

_____

_____

CODING INSTRUCTION SHEETS

INSTRUCTIONS FOR CODING APCO KEYPUNCH SHEET

1. Plant Inspection

Code = PI

I-1 through I-15 are the firm numbers on which the inspections are ordered.

2. Emission Measurements

Code = EM

I-1 through I-15 are the firm numbers for which the measurements are ordered.

3. Air Quality

Code = AQ

F-1 = Limit for Particulates

F-2 = Limit for SO_2

F-3 = Limit for CO

F-4 = Limit for NO_x

F-5 = Limit for HC

4. Monitoring Stations

Code = MS

I-1 = Analysis Area (1-29)

I-2 = Station Type (1-5)

I-3 = Priority (1-n)

5. Summary of Budget Request

Code = BR

I-1 = 1 (County), 2 (Federal), 3 (5Year Federal)

F-1 = $ Public Education

F-2 = $ Administration and Enforcement

F-3 = $ Plant Inspections

F-4 = $ Emission Measurements

F-5 = $ Purchase, Upgrade AQ Monitoring Stations

F-6 = $ AQ Monitoring Station Operation

If I-1 = 3:

F-1 = $ Awarded First Year
F-2 = $ Awarded Second Year
F-3 = $ Awarded Third Year

} FROM FEDERAL GRANT APPLICATION SECTION

6. Air Pollution Legislation

Code = AF

I-1 = Type of decision (1=Recommendation, 2=Rule, 3=Law ---as stated on keypunch sheet.

I-2 = Fine (even dollar amount) if change from preceding cycle. Can only be indicated on the two lines not crossed out. It cannot exceed $9999

I-3 = Type of limits--correct numbers are indicated on keypunch sheet.

IF I-3 = 1 or 2:	IF I-3 = 3:
F-1 = Particulates	F-1 = Ringelmann 0-5
F-2 = SO_2	F-2 = Smoke and Odor
F-3 = CO	
F-4 = NO_x	
F-5 = HC	

INSTRUCTIONS FOR CODING DEVELOPER KEYPUNCH SHEET

1. Loan Payment (see worksheet section II-A)

   Code = LP

   I-1 = Land Developer numbers 1 through 7

   I-2 = Loan Number as indicated on Worksheet

   F-1 = $ Amount of payment

2. Tax Payment (see worksheet section II-B)

   Code = TP

   I-1 = Land Developer numbers 1 through 7

   I-2 = Jurisdiction to which paid: 1 = Central City
   2 = Suburb
   3 = Township 1
   4 = Township 2
   5 = County

   F-1 = $ Amount of payment

3. Campaign Contribution (see worksheet section II-C)

   Code = CC

   I-1 = Developer numbers 1 through 7

   I-2 = Politician Number: 1 = Central City-Ward 1
   2 = Central City-Ward 2
   3 = Central City-Ward 3
   4 = County Politician, Suburb
   5 = County Politician, Township 1
   6 = County Politician, Township 2
   7 & 8 = County Politician, Central City (at large)

   OR

   Bond or special millage number (must agree with I-2 of a BS Card for the same cycle)

   F-1 = Dollars--precede with minus sign if opposed to Politician or referendum

4. Cash Transfer (see worksheet section III-D)

   Code = CT

   I-1 = Who from [illegible]

I-2 = Who to [illegible]. 1 - 7 Land Developers
8 - 13 Industrialist (corresponding to 1-7)
15 - Market
16 - Central City Politicians
17 - County Politicians
99 - Game Operator

F-1 = $ Amount of transfer

5. Exofirm Investments (see worksheet section II-E)

Code = BI

I-1 = Land Developer number

I-2 = Exofirm number

F-1 = $ Amount of investment

6. Land Transfers (see worksheet sections I-E and II-F)

Code = LT

I-1 = Seller (for land sales "section I-E" always developer 1-7)
(for land purchases: 1 - 7 = Land Developers
8 - 13 = Industrialists
15 = Market (non-game private)
16 = Central City Politicians
17 = County Politicians

I-2 = Analysis Area (1-29)

I-3 = Present Use: 0 = Vacant
1 = Developed
2 = Public Buildings, Parks, etc.

I-4 = Present Zoning Category:

IF VACANT (I-3 = 0)
1 = Residential/single
2 = Residential/multiple
3 = Commercial
4 = Industrial
5 = Office
6 = Agricultural

IF DEVELOPED (I-3 = 1)
1 = R-1 (single family residential-low density)
2 = R-2 (single family residential-medium density)
3 = R-3 (single family residential-high density)
4 = M-1 (multiple family residential-low density)
5 = M-2 (multiple family residential-medium density)
6 = CL (commercial local)
7 = CR (commercial regional)
8 = IL (industrial local)
9 = IR (industrial regional, Players may not
10 = Office develop in these
11 = Agricultural categories

I-5 = Buyer: same code as I-1 for land purchases

I-6 = Number of household units (this is used for developed residential only--i.e. I-3 = 1 and I-4 = between 1 and 5) Blank otherwise.

F-1 = Number of acres if other than developed residential. Blank otherwise.

F-2 = $ Price offered by buyer for each unit or acre as appropriate. (This field is blank if buyer is "15" (the market).

SPECIAL NOTE: IF THE LAND TRANSFER IS BETWEEN 2 GAMED PLAYERS-- ONLY THE SELLER RECORDS THE LAND ON THE CODING SHEET.

7. Development Costs (see section II-I on worksheet)

Code = DL

I-1 = Land Developer 1 - 7

I-2 = Analysis Area 1 - 29

I-3 = Use same coding as for I-4 IF DEVELOPED under land transfers

I-6 = Number of units being developed if residential } NOT BOTH

F-1 = Number of acres being developed if non-residential }

8. Loan Request (see worksheet section III-C)

Code = LR

I-1 = Land Developer number 1 - 7

I-2 = Number of years requested for repayment (if player indicates between 3-5 use the number 4, etc.)

F-1 = $ Amount requested

INST[illegible]ODING PLANNER KEYPUNCH SHEET

1. Capital Improvements (see recommendations for capital improvement projects)

   Code = CP

   I-1 = Planner Number: 6 = Central City
   10 = County

   I-2 = Location (must agree with SCALE in project list)
   1...29 = specific analysis area
   30 = Ward 1 in Central City
   31 = Ward 2 in Central City
   32 = Ward 3 in Central City
   33 = Ward 4--Suburb
   34 = Ward 5--Township 1
   35 = Ward 6--Township 2
   36 = Jurisdiction 1
   37 = Jurisdiction 2
   38 = Jurisdiction 3
   39 = Jurisdiction 4
   40 = County

   I-3 = Project number, 1-120

   F-1 = Total amount to be spent on project. (NOTE: must fall within range shown on project list and must be in even $000).

2. Special Programs (see recommendations for special programs)

   Code = SP

   I-1 = Planner Number (see above coding)

   I-2 = Location (must agree with SCALE in programs list) see above coding

   I-3 = Program number, 1-40

   I-6 = 1 if project required is already in existence

3. Rezoning Application (all rezoning application forms should be submitted to the Plannner for recommendation and [illegible]en Planner's submit to Politicians for approval--when worksheets are requested, Planner submits all rezoning forms)

   [illegible] = RZ

   I-1 = Owner: 1 - 7 for land developers
   8 -13 for industrialists
   15 for Market
   16 for Central City
   17 for County

   I-2 = Analysis [illegible] (1-29)

I-3 = Present use: 0 = vacant
1 = developed
2 = public buildings, parks, etc.

I-4 = Present Zoning:

IF VACANT (I-3 = 0)
1 = residential/single
2 = residential/multiple
3 = commercial
4 = industrial
5 = office
6 = agricultural

IF DEVELOPED (I-3 = 1)
1 = R-1 (single family residential-low density)
2 = R-2 (single family residential-medium density)
3 = R-3 (single family residential-high density)
4 = M-1 (multiple family residential-low density)
5 = M-2 (multiple family residential-medium density)
6 = CL (commercial local)
7 = CR (commercial regional)
8 = IL (industrial local or endogenous)
9 = IR (industrial regional or exogenous)
10 = Office
11 = Agricultural

I-5 = New Zoning: use same coding as for IF VACANT above

I-6 = Number units rezoned if present zoning is improved residential (1...5)

OR

F-1 = Number acres rezoned if not improved residential

NOTE: WHEN DEVELOPED PROPERTY IS REZONED, IT BECOMES VACANT

INSTRUCTIONS FOR CODING POLITICIAN KEYPUNCH SHEET

1. Change in Operating Expenses (City or County) -- see worksheet section II-G.

   Code = UV

   I-1 = Politician Number: 1 = Central City
   5 = County

   I-2 = Budget Category:
   1) Legislative and executive
   2) Planning
   3) Financial
   4) Judicial
   5) Fire and Police
   6) Parks and recreation
   7) Water and Sewage (total public works, County)
   8) Refuse Collection (not County)
   9) Streets and related
   10) Employee Benefits
   11) Public Relations
   12) Library Fund
   13) Public Health and related programs (County only)
   14) APCO (County only)
   15) Welfare - Hospital (County only)
   17) Transfer to Capital Fund
   18) Transfer to Debt Retirement

   F-1 = New percent
   OR
   F-2 = New dollar value

3. Normal Operating Millage (see worksheet section II-B)

   Code = RM

   I-1 = Politician Number: 1 = Central City
   5 = County

   F-1 = Total New Operating Millage

4. Cash Transfer (see worksheet section II-F)

   Code = CT

   I-1 = Who from: 1 - 7 Land Developers
   8 - 14 Industrialists corresponding to 1 through 7
   15 Manual
   16 Central City
   17 County

   I-2 = Who to: Same as Code I-1

   F-1 = $ Amount

5. Special Grant (see worksheet section III-E-d)

Code = SG

I-1 = Politician Number: 1 = Central City
5 = County

I-2 = Type of Grant: 1 = Operating Budget
2 = Capital Budget

F-1 = $ value of grant

6. Land Transfer (see worksheet section III-D)

Code = LT

I-1 = Seller: 1 - 7 = Land Developers
8 - 14 = Industrialists (corresponding to 1 - 7
15 = Market (non-game private)
16 = Central City
17 = County

I-2 = Analysis Area (1-29)

I-3 = Present Use: 0 = Vacant
1 = Developed
2 = Public Buildings, Parks, etc.

I-4 = Present Zoning Category:

IF VACANT (I-3 = 0):
1 = Residential/single
2 = Residential/multiple
3 = Commercial
4 = Industrial
5 = Office
6 = Agricultural

IF DEVELOPED (I-3 = 1):
1 = R-1 (single family residential-low density)
2 = R-2 (single family residential-medium density)
3 = R-3 (single family residential-high density)
4 = M-1 (multiple family residential-low density)
5 = M-2 (multiple family residential-medium density)
6 = CL (commercial local)
7 = CR (commercial regional)
8 = IL (industrial local)
9 = IR (industrial regional)
10 = Office
11 = Agricultural

Players may not develop in these three categories

I-5 = Buyer: Same codes as I-1

I-6 = Number of household units (this is used for developed residential only--if I-3 = 1 and I-4 = between 1 and 5) Blank otherwise.

F-1 = Number of acres if other than developed residential. Blank otherwise.

F-2 = $ Price offered by buyer for each unit or acre as appropriate. (If buyer is M (I-5 = 15) leave blank).

7. Bond, Special Millages (see worksheet sections II-C, II-D, II-E, III-A, III-B, IV-A & B)

Code = BS

I-1 = Politician Number: 1 = Central City
5 = County

I-2 = Unique number given to player by role advisor

I-3 = Purpose: 1 = Millage for water, sewer, streets
2 = Millage for parks, special project., misc.
3 = Bond for water, sewers, streets
4 = Bond for parks, misc.
5 = Raise current local limit

I-4 = Type: 1 = G.O. Bond
2 = Revenue Bond
3 = Special Millage
4 = Debt Retirement Millage (Code for purpose = 1 in I-3 field above)

I-5 = Number of years

I-6 = Elite Opinion Poll "Number for" minus "number against"

F-1 = Dollar if bond; Mills if I-4 = 3 or 4

F-2 = Promotional expenses related to this referendum, in dollars.

F-3 = blank = no
1 = yes

8. Capital Improvements (see worksheet section III-C)

Code = CP

I-1 = Politician Number: 1 = Central City
5 = County

I-2 = Location (Analysis Area 1 - 29; Wards 1 - 6 = 30 - 35; Jurisdictions 1 - 4 = 36 - 39; County = 40)

I-3 = Project Number, 1 - 120

I-4 = Bond Number to which project is tied, otherwise blank.

F-1 = Amount to be spent on project. (NOTE: must fall within range shown on project list and must be in even $000.)

9. Special Program (see worksheet section II-D)

Code = SP

I-1 = Politician Number

I-2 = Location--same as CP

I-3 = Program Number 1 - 40

I-4 = Millage Number

I-6 = 1 if project is already in existence.

INSTRUCTIONS FOR CODING INDUSTRIALIST KEYPUNCH SHEET

1. Production Level

Code = PL

I-1 = Industrialist Number 8-13:
- Industrialist No. 1 = 8
- Industrialist No. 2 = 9
- Industrialist No. 3 = 10
- Industrialist No. 4 = 11
- Industrialist No. 5 = 12
- Industrialist No. 6 = 13

I-2 = Fuel for Production: (see worksheet, section II-C under Estimated Operating Cost)
- 0 = no change
- 1 = low grade coal
- 2 = high grade coal
- 3 = low grade oil
- 4 = high grade oil
- 5 = natural gas
- 6 = electricity

I-3 = Purchase Emission Data (1 = yes, 2 = no)--see worksheet under Estimated Operating Costs section II-H

I-4 = Purchase Control System Data (1 = yes, 2 = no)--see worksheet under Estimated Operating Costs section II-I

F-1 = Production level, units (see worksheet under Estimated Income section II-B)

F-2 = Unit Sales Price, $ (see worksheet under Estimated Income section II-B)

F-3 = Estimated Sales, units (see worksheet under Estimated Income section II-B)

2. Land Transfers (see worksheet under Estimated Income-Section II-D and under Capital Expenditure Estimation-Section III-D)

Code = LT

I-1 = Seller (for land sales "section II-D under Estimated Income" always use Industrialist 8 - 13)

for land purchases:
- 1 - 7 = Land Developers
- 8 - 13 = Industrialists
- 15 = Market (non-game private)
- 16 = Central City Politicians
- 17 = County Politicians

I-2 = Analysis Area (1-29)

I-3 = Present Use:
- 0 = Vacant
- 1 = Developed
- 2 = Public Buildings, Parks, etc.

I-4 = Business Zoning Category:

IF UNDEVELOPED (I-3 = 0) - 1 = residential/single
2 = residential/multiple
3 = commercial
4 = industrial
5 = office
6 = agricultural

IF DEVELOPED (I-3 = 1) - 1 = R-1 (single family residential-low density)
2 = R-2 (single family residential-med density)
3 = R-3 (single family residential-high density)
4 = M-1 (multiple family residential-low density)
5 = M-2 (multiple family residential-med density)
6 = CL (commercial local
7 = CR (commercial regional)
8 = IL (industrial local or endogenous)
9 = IR (industrial regional or exogenous)
10 = Office
11 = Agricultural

I-5 = Buyer: Same code as I-1 for land purchases

I-6 = Number of household units (this is used for developed residential only--if I-3 = 1 and I-4 = between 1 and 5) Blank otherwise.

F-1 = Number of acres if other than developed residential. Blank otherwise.

F-2 = $ Price offered by buyer for each unit or acre as appropriate. (This field is blank if buyer is "15" (the market).

SPECIAL NOTE: IF THE LAND TRANSFER IS BETWEEN 2 GAMED PLAYERS--ONLY THE SELLER RECORDS THE LAND ON THE CODING SHEET.

3. Pollution Controls (see worksheet section II-F under Estimated Operating Costs)

Code = PC

I-1 = Industrialist number 8 - 13

I-2 = Process Number (1....8)

I-3 = Control Type (1.....)

4. Loan Payment (see worksheet section II-J under Estimated Operating Costs)

Code = LP

I-1 = Industrialist 8 - 13

I-2 = Loan Number as indicated on worksheet

F-1 = $ Amount of payment

5. Tax Payment (see worksheet section II-K under Estimated Operating Costs)

Code = TP

I-1 = Industrialist 8 - 13

I-2 = Jurisdiction to which paid: 1 = Central City
2 = Suburb
3 = Township 1
4 = Township 2
5 = County

F-1 = $ Amount of payment

6. Cash Transfers (see worksheet section II-L under Estimated Operating Costs)

Code = CT

I-1 = Who from: Industrialists 8 - 13

I-2 = Who to (Player*): 1 - 7 Land Developers
8 - 13 Industrialist
15 = Market
16 = City Politicians
17 = County Politicians
99 = Game Operator

F-1 = $ Amount

7. Campaign Contribution (see worksheet section II-M under Estimated Operating Costs)

Code = CC

I-1 = Industrialist number 8 - 13

I-2 = Politician Number: 1 for Central City-Ward 1
2 for Central City-Ward 2
3 for Central City-Ward 3
4 for County Politician, Suburb
5 for County Politician, Township 1
6 for County Politician, Township 2
7 & 8 for County Politician, Central City (at large)

OR

Bond of special millage number (must agree with I-2 of BS Card for the same cycle)

F-1 = Dollars--precede with minus sign if opposed to Politician or referendum

8. Non-Pollution Expenditure

Code = NP

I-1 = Industrialist number 8 - 13

F-1 = Depreciation allowance (see worksheet section II-B under Estimated Net Profit)

F-2 = Production Equipment Expansion (see worksheet section III-B under Capital Expenditure Estimation)

F-3 = Building Expansion (see worksheet section III-C under Capital Expenditure Estimation)

F-4 = Maintenance Expenditures (see worksheet section II-G under Estimated Operating Costs)

9. Loan Request (see worksheet section IV-C under Loan Estimations)

Code = LR

I-1 = Industrialist number 8 - 13

I-2 = Number of years requested for repayment (if player indicates between 3-5, use the number 4, etc.)

F-1 = $ Amount requested

INSTRUCTIONS FOR CODING ISSUE DECISIONS

An issue decision card contains one or more groups of numbers separated by commas. Each group of numbers gives the program information about one issue appearing in the newspaper that was printed at the end of the preceding cycle. The information is comprised of two required entries; the issue number and the alternative acted upon by the deciding agent (a Politician or the Elite Opinion Poll). If the alternative action required that a project be funded, the bond or millage number associated with that project may be given.

The format for issue decisions is as follows: iia(bbb), iiia,iiia(bbb),... iiia*.

Where: iii is a 1 to 3 digit issue number
a is a single digit indicating the alternative chosen
(bbb) is an optional 3 digit bond/mill number

The card is "free-format"; that is, punching may begin in any column, and blank columns are ignored and may be used for spacing to increase legibility. Each group of numbers for a single issue is separated by a comma. However, the last group must be terminated by an asterisk (*), not a comma. A maximum of 40 issue decisions may be input in any single cycle. If one card is not sufficient for all issue decisions, decisions may be punched on any number of additional cards. The terminating asterisk appears only after the last decision on the last card of the series. The last character on any one card must be either a comma or an asterisk. Thus, a number group for any one issue must appear on only one card--it will not be continued from one card to the next.

INSTRUCTIONS FOR CODING CANDIDATE ELECTION DATA CARDS

The following format is used for punching candidate election dat cards.

Columns

1-2 Candidate Number. A candidate number must be entered on each card. Incumbents should be assigned number 1-8. Corresponding numbers from 9-16 should be assigned to their opponents so that each matched pair are given numbers 8 apart; that is, opponent 12 runs against incumbent 4, etc. The assignment of numbers to incumbents is arbitrary. Do not punch cards for opponents if there is not a card for the corresponding incumbent.

3 a) For incumbents (01-08 in columns 1-2) this column indicates whether the opponent is real or simulated:
1 = gamed opponent (real)
2 = simulated opponent

b) For gamed challengers (09-16 in columns 1-2) this column should be blank, For simulated challengers this column designates the opponent type:
1 = Conservative
2 = Moderate Republican
3 = Labor Liberal
4 = New Left Liberal
5 = Working Class Conservative
6 = Ultra-Conservative
7 = Business Candidate
8 = Black Candidate
9 = Reform Candidate

4-8 Party Support. This entry is included only for incumbents. It is the major discretionary variable under the control of the operator. Some number between

1 and 60 is entered designating the percentage of the vote, up to 60%, going automatically to the absent. The entry can be determined by apportioning the 60% in accordance to a hand vote of gamed players, operator's whim or any other suitable method. If the entry is left blank, the machine sets the appropriate variable to 30.

9-28 Candidate Name. A name up to twenty characters long is entered here to be printed with the election results in the newspaper. Names should be entered for simulated as well as gamed opponents. For example, a conservative might be called Richmond Q. Stuffshirt.

29-80 Issue Number, Candidate Stand on Issue, and Candidate Stress on Issue. The form follows that for issue decision cards---iiia(bb)--where iii is a 1 to 3 digit issue number, "a" is the alternative chosen and "bb" is the percent of campaign funds spent stressing the stand taken on that issue. These entries are free format and up to 40 issue decisions may be entered. Additional cards may be used as needed with the continuation card starting in column 1.

An asterisk is used to designate the end of the sequence for a given candidate. Entries should be made for only those issues for which the candidate casts a vote. Note that these columns should be left blank for simulated opponents. Also, for unstressed issues (issues which would have zero in parentheses) the parentheses may be omitted.

WORKSHEETS

APCO WORKSHEET

I. ELITE OPINION POLL

Air Pollution Control Officer

Cycle Number_____

ISSUE NO.	ALTERNATIVE

Air Pollution Control Officer Cycle Number_____

II. BUDGET REQUEST

A. Public Education Expenditures

Programs	Costs
1.	
2.	
3.	
4.	
5.	
6.	

Total Public Education Expenditures $_____

B. Administration and Enforcement

Administration

Programs	Costs
1.	
2.	
3.	
4.	
5.	
6.	

Sub Total - Administration $_____

Enforcement

Programs	Costs
1.	
2.	
3.	
4.	
5.	
6.	

Sub Total - Enforcement $_____

Total - Administration & Enforcement $_____

C. Plant Inspections

Industries in Priority of Inspection*															No. of Insp.	Cost Insp	Total Cost this Cycle
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
																$1,500	

D. Emission Measurements

Industries in Priority of Emission Measure*															No. of E.M.	Cost E.M.	Total Cost this Cycle
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
																$3,000	

E. Air Quality Monitoring Stations - Purchase, Upgrade, and Operation

1. Cost Associated with A.Q. Monitoring Station

Type of Station	Pollutants Monitored	Original Purchase Price	Upgrade to				Oper. Cost
			Type 2	Type 3	Type 4	Type 5	
Type 1	Particulates	500	2,300	5,800	11,800	14,900	2,100
Type 2	Part + SO_2	2,800	-	3,500	9,500	12,600	4,500
Type 3	Type 2 + CO	6,300	-	-	6,000	9,100	6,600
Type 4	Type 3 + NO_x	12,300	-	-	-	3,100	9,200
Type 5	Type 4 + HC	15,400	-	-	-	-	11,550

2. Monitoring Station Operation

A.A.*	Type of Station to be operated*	Purchase or Upgrade Cost	Operating Cost	Priority for Station Operation*
Total				

3. Monitoring Station Reporting Levels

Particulates*	SO_2*	CO	NO_x*	HC*

F. Summary of Budget Request

	Total	County*	Federal*
Public Education			
Administration & Enforce.			
Plant Inspections			
Emission Measurements			
A.Q. Stations Upgrade			
A.Q. Stations Operation			
Total			

Signature of Authorizing County Official _____

III. FEDERAL GRANT APPLICATION

Approved Federal Funds in $.	Cycle*	Cycle*	Cycle*
1. Original			
2. Supplemental			

IV. AIR POLLUTION LEGISLATION

A. County Regulations

Initial of Co. Board	Max. Fine Level*	Lbs/Hr.*					Lbs/1000 Lbs Prod.*					Smoke Odor*
		Part	SO_2	CO	NO_x	HC	Part	SO_2	CO	NO_x	HC	

B. Recommendations to State for Regulations

_____

DEVELOPER'S WORKSHEET

I. ELITE OPINION POLL

Developer Number_____ Cycle Number_____

ISSUE NO.	ALTERNATIVE

Developer Number_____ Cycle Number_____

II. CASH BALANCE AND CYCLE INCOME

A. Cash on Hand $_____

B. 5% Interest on Cash Balance $_____

C. Cash Transfers (from other players)

	Player	Amount	Reason
1.			
2.			
3.			
4.			
5.			

Total Cash Transfers $_____

D. Estimated Return from Exofirm Investments

	Exofirm No.	Amount Invested	Estimated Return
1.			
2.			
3.			
4.			
5.			

Total Estimated Return on Investment $_____

E. Land Offerings and Estimated Sales

	AA *	Vacant/ Dev. *	Zoning Cat. *	Buyer *	No. of Units *	or	No. of Acres *	Price/Acre Price/Unit *	Total Price
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									

Total Price of Land Offerings $_____

Estimated Land Sales $_____

TOTAL ESTIMATED INCOME $_____

III. ESTIMATED EXPENDITURES

A. Loan Payments

	Loan No. *	Amount*
1.		
2.		
3.		
4.		
5.		

Total Loan Payments $_____

B. Property Taxes

	Jurisdiction*	Amount*
1.		
2.		
3.		
4.		
5.		

Total Property Taxes $_____

C. Campaign Contributions

	Pol/Bond/Mill #*	Amount*	For/Against
1.			
2.			
3.			
4.			
5.			
6.			

Total Campaign Contributions $_____

D. Cash Transfers (to other players)

	Player*	Amount*	Reason
1.			
2.			
3.			
4.			
5.			

Total Cash Transfers $_____

E. Exofirm Investments

	Exofirm No.*	Preferred Location	Amount*
1.			
2.			
3.			
4.			
5.			

Total Exofirm Investments $_____

F. Land Purchases

	Seller*	AA*	Vac/ Dev.*	Zoning Cat. *	No. of Units*	or	No. of Acres*	Price/Unit Price/Acre*	Total Price
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									

Total Land Purchases $_____

G. Zoning Application Fees

	AA	Vac/ Dev.	From?	To?	No. of Units	or	No. of Acres	Fee at $100 per application
1.								
2.								
3.								
4.								
5.								
6.								

Total Zoning Application Fees $_____

H. Land Clearance Costs (Demolition)

	AA	Total Value of Developed Property being Rezoned	Demo. Rate	Land Clearance Cost
1.			.05	
2.			.05	
3.			.05	
4.			.05	
5.			.05	
6.			.05	

Total Land Clearance Costs $_____

I. Building Development Costs

	AA*	Development Type*	No. of Units*	or	No. of Acres*	Cost/Unit Cost/Acre	Total Cost
1.							
2.							
3.							
4.							
5.							
6.							

Total Building Development Costs $_____

J. Vacant Land Improvement Costs

	AA	Vacant Land Being Developed		Cost/Unit Cost/Acre	Total Cost
		No. of Units	No. of Acres		
1.					
2.					
3.					
4.					
5.					
6.					

Total Vacant Land Improvement Costs $_____

TOTAL ESTIMATED EXPENDITURES $_____

IV. ESTIMATED LOANS

A. Cash on Hand plus 5% Interest $_____

B. Total Estimated Expenditures - $_____

C. Loan Requests

	Years for Repayment*	Amt. of Loan Requested*
1.		
2.		
3.		

Total Loan Requests $_____

PLANNER'S WORKSHEET

I. ELITE OPINION POLL

Central City Planner ( )

County Planner ( )

Cycle Number_____

ISSUE NO.	ALTERNATIVE

Central City Planner ( ) Cycle Number_____

County Planner ( )

II. RECOMMENDATIONS FOR CAPITAL IMPROVEMENT PROJECTS

Location*	Project Number*	Total Cost*	Cycle to Run

III. RECOMMENDATIONS FOR SPECIAL PROGRAMS

Location*	Program Number*	Cost per Year	Project in Existence?*

City POLITICIAN'S WORKSHEET

I. ELITE OPINION POLL

Cycle Number_____

Central City Pol.
Ward 1

ISSUE NO.	ALTER

Central City Pol.
Ward 2

ISSUE NO.	ALTER

Central City Pol.
Ward 3

ISSUE NO.	ALTER

County POLITICIAN'S WORKSHEET

I. ELITE OPINION POLL

Cycle Number_____

County Pol. Suburb		County Pol. Twn. 1		County Pol. Twn. 2		Central City Pol. at Large		County Pol. at Large	
ISSUE NO.	ALTER	ISSUE NO.	ALTER	ISSUE NO.	ALTER	ISSUE NO.	ALTER	ISSUE NO.	ALTER

Central City Politician ( ) Cycle Number_____

County Politician ( )

II. OPERATING BUDGET

A. Estimation of Revenue Generation through Increases in the Millage

1. Item "F" of "Operating Budget Revenue Generation" _____
2. Divide Line 1 by 1000 for 1 mill increase _____
3. Multiply Line 2 by millage increase x _____
4. Expected increase in revenues _____

B. Change in Operating Millage

Change the Operating Millage		Total New Millage Rate*
Yes	No	

C. Raise Local Limit

Number of Years to Run*	Millage Increase*	Promotion Expenditures* (if any)	If voted down, should it be resubmitted*	
			Yes	No

This requires a public referendum. You need to get the opinions of as many players in the room as is possible. The form for polling the gamed players is found in section V of the worksheet.

D. Special Programs

New Special Program Number*	Location*	Method of Funding		Cost per Year	Is Required Capital Proj in Existence?*
		Operating Budget	Special Millage*		

Total Cost of Special Programs $_____

E. Special Millages

Special Millage	No. of Years Special Millage Runs*	No. of Mills*	Promotional Expenditures* (if any)	If voted down, should it be resubmitted?*	
				Yes	No
1					
2					
3					
4					
5					

This requires a separate public referendum. You need to get the opinions of as many players in the room as is possible. The form for polling the gamed players is found in section V of the worksheet.

F. Cash Transfers (to other players)

Player*	Amount*	Reason

G. Change in Operating Expenditures

1. City Change in Operating Expenditures

Category:		% Total Revenue*	OR	$ Amount*
(A.)	Legislative and Executive	XXXXXXXXXX		_____
(B.)	Planning	_____		_____
(C.)	Financial	_____		_____
(D.)	Judicial	_____		_____
(E.)	Fire and Police	_____		_____
(F.)	Parks & Recreation--salaries & maintenance	_____		_____
(G.)	Water & Sewers--salaries & maintenance	_____		_____
(H.)	Refuse Collection	_____		_____
(I.)	Streets--salaries & maintenance	_____		_____
(J.)	Employee Benefits	_____		_____
(K.)	Public Relations (Promotion Expenditures)			
	(1) Special Debt Retirement Millage _____			
	(2) General Obligation Bonds + _____			
	(3) Raising Local Operating Millage Limit + _____			
	(4) Special Millages + _____			
	Total Promotional Expenditures _____	_____		_____
(L.)	Library	_____		_____
(M.)	Check Payments to Other Players (Cash Transfers to other players)	XXXXXXXXXX		_____
(N.)	Special Programs			
	(1) New Special Programs Annual Cost _____			
	(2) Continuing Special Programs on Listing (those with asterisks) + _____			
	Total Cost of Special Programs _____	XXXXXXXXXX		_____
(O.)	Transfer to Capital Fund	XXXXXXXXXX		_____
(P.)	Transfer to Debt Retirement	XXXXXXXXXX		_____

XXXXXXXXXX - percentages do not apply to those categories. Please enter dollar amount only.

2. County Change in Operating Expenditures

Category:		% Total Revenue* OR	$ Amount*
(A.)	Legislative & Administrative (i.e., Planning, Financial, etc.)	XXXXXXXXXX	_____
(B.)	Judicial	_____	_____
(C.)	Public Safety	_____	_____
(D.)	Parks Authority	_____	_____
(E.)	Public Works Maintenance	_____	_____
(F.)	Public Health	_____	_____
(G.)	APCO (Budget Worksheet)	XXXXXXXXXX	_____
(H.)	Welfare and Hospitalization	_____	_____
(I.)	Road and Street Maintenance	_____	_____
(J.)	Employee Benefits	_____	_____
(K.)	Public Relations (Promotional Expenditures)		
	(1) Special Debt Retirement Millage _____		
	(2) General Obligation Bonds + _____		
	(3) Raising Local Operating Millage Limit + _____		
	(4) Special Millages + _____		
	Total Promotional Expenditures _____	_____	_____
(L.)	Library	_____	_____
(M.)	Check Payments to other Players (Cash Transfers to other Players)	XXXXXXXXXX	_____
(N.)	Special Programs		
	(1) New Special Programs Annual Cost _____		
	(2) Continuing Special Programs on Listing (those with astericks) + _____		
	Total Cost of Special Programs _____	XXXXXXXXXX	_____
(O.)	Transfer to Capital Fund	XXXXXXXXXX	_____
(P.)	Transfer to Debt Retirement	XXXXXXXXXX	_____
(Q.)	Transfer to Roads Capital Fund	20% of Road Commission Revenues	_____

XXXXXXXXXX - percentages do not apply to those categories. Please enter dollar amount only.

III. CAPITAL BUDGET

A. Revenue Bonds

Revenue Bond	Budget Category*	Cycle for Revenue Bond to Run*	Dollars*
1			
2			
3			
4			
5			
6			
7			
8			
9			

Total for all Revenue Bonds $_____

B. General Obligation Bonds

General Obligation Bond	Budget Category*	Cycles to Run*	Amount*	Promotion Expenditure (if any)*	Re-Submit *
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Total for All General Obligation Bonds $_____

BE SURE TO LIST ALL PROJECTS ON NEXT PAGE!

Each General Obligation Bond requires a separate public referendum. You need to get the opinions of as many players in the room as is possible. The form for polling the gamed players is found in section V of the worksheet.

C. Capital Improvement Projects

Project No.*	Location*	Method of Funding			Total Cost*	Cycles to Run	Annual Cost
		Capital Budget	Revenue Bond*	G.O. Bond*			

Total Cost of all New Projects $_____

Total Annual Cost $_____

D. Land Purchases

Seller*	AA*	Vac/Dev*	Zone Cat.*	No. of Units*	or No. of Acres*	Price/Acre Price/Unit*	Total Price

Total Land Purchases $_____

E. Cash Flow of Capital Budget

1. Revenue Generation for Capital Budget

(a) Balance of capital fund carried forward (Item 10 of Output) _____

(b) New Bond Sales
Total for all new Revenue Bonds _____
Total for all new G.O. bonds + _____
Sum of new bonds _____
Total Bond Sales + _____

(c) New Transfers from General Fund _____
Capital Roads Fund (Co. only) + _____
Total Transfers from General Fund + _____

(d) New Special Grants
State Money
Federal Money +
Sum of outside funds

(e) Total Capital Improvement Fund

Transfer this amount to Item 9 below

2. Expenditures for Capital Budget

(a) Total Costs of all new projects (taken from Capital Improvement Projects)

(b) Total Annual Cost of new Projects (taken from Capital Improvements) -

Encumbered Funds for new Projects

(c) Sum of annual costs on printout (those with asterisks)

(d) Total annual costs of new projects +

(e) Total Disbursements (other than land)

(f) Encumbered funds for projects not yet completed (item 11 on listing)

(g) Sum of annual cost on printout (those with asterisks) -

SUB TOTAL +

(h) Encumbered funds for all new and old projects

(i) Total Capital Improvement fund (from previous page)

(j) Total land purchases this cycle -

SUB TOTAL

(k) Total Disbursements (other than land) -

Balance of Capital Funds for Next Cycle

x .06

(l) 6% Interest on Balance

(m) Total Carried to next cycle

(n) Encumbered Fund for all old & new projects

(o) Unencumbered Balance

IV. DEBT RETIREMENT FUND

A. "Total Debt Retirement Funds Available for Cycle" _____

B. Total payment due for all general obligation bonds - _____

Total _____

Special Debt Retirement Millage

Number of Years to Run*	Millage Rate*	Promotion Expenditures if any*	If voted down, should it be resubmitted?*

Each Special Debt Retirement Millage requires a separate public referendum. You need to get the opinions of as many players in the room as is possible. The form for polling the gamed players is found in section V of the worksheet.

Bond, Millage or Raise in Local Limit	Number (if Bond or Mill	Purpose (if appropriate)	Developers (7)							Industrialists (7)							Planners			Pol.		
			1	2	3	4	5	6	7	1	2	3	4	5	6	7	Cty	Co.	Reg	Cty	Co.	APCO

V. FORM FOR POLLING PLAYER OPINION.

INDUSTRIALIST'S WORKSHEET

I. ELITE OPINION POLL

Industrialist Number_____ Cycle Number_____

ISSUE	ALTERNATIVE

Industrialist Number_____ Cycle Number_____

II. PROFIT AND INCOME TAX ESTIMATION

ESTIMATED INCOME

A. Interest on Cash Available

1. Cash Available _____
2. Interest Rate x .05

Total Interest on Cash Available $_____

B. Product Sales

1. Sales Price _____*
2. Estimated Sales (units) x _____*
3. Estimated Sales ($) $_____
4. Estimated Sales (units) _____
5. Desired Inventory Carryover + _____
6. Total Units Needed _____
7. Actual Inventory Carryover - _____
8. Estimated Production Level _____*

C. Cash Transfers (from other players)

	Player	Amount	Reason
1.			
2.			
3.			
4.			
5.			

Total Cash Transfers $_____

D. Land Sales

	AA*	Vacant/ Dev.*	Zoning Cat.*	Buyer*	No. of Units*	or	No of Acres*	Price/Acre Price/Unit*	Total Price
1.									
2.									
3.									
4.									
5.									

Total Land Sales + $_____

TOTAL ESTIMATED INCOME $_____

ESTIMATED OPERATING COSTS

A. Labor

1. Estimated Production Level _____
2. Employment/Production Ratio x _____
3. No. of Employees _____
4. Average Annual Wage x _____

Total Labor Cost $_____

B. Materials

1. Estimated Production Level _____
2. Unit Material Costs x _____

Total Material Cost $_____

C. Fuel

1. Fuel Type _____*
2. Estimated Production Level _____
3. Unit Fuel Cost x _____

Total Fuel Cost $_____

D. General Administration

1. Estimated Production Level _____
2. Unit General Administration Cost x _____

Total General Administration Cost $_____

E. Inventory Carrying Costs

1. Desired Inventory Carryover _____
2. Unit Inventory Carrying Costs x _____

Total Inventory Carrying Costs $_____

F. Pollution Controls Operation

	Production Sub-Process No.*	Control Type	Control Number*	Annual Operating Cost*
1.				
2.				
3.				
4.				
5.				

Total Pollution Controls Operating Costs $_____

ESTIMATED OPERATING COSTS (cont.)

G. Plant Maintenance $_____*

H. Consultants - Pollution Emission Data $_____*

I. Consultants - Control Systems Data $_____*

J. Loan Payments

	Loan No.*	Amount*
1.		
2.		
3.		
4.		
5.		

Total Loan Payments $_____

K. Property Taxes

	Jurisdiction*	Amount*
1.		
2.		
3.		
4.		
5.		

Total Property Taxes $_____

L. Cash Transfers (to other players)

	Player*	Amount*	Reason
1.			
2.			
3.			

Total Cash Transfers $_____

M. Campaign Contributions

	Pol/Bond/Mill No.*	Amount*	For or Against
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

Total Campaign Contributions $_____

ESTIMATED OPERATING COSTS (cont.)

N. Zoning Application Fees and/or Demolition Costs

	A.A.	Vac/ Dev.	From	To	No. of Units	or	No. of Acres	Fee
1.								
2.								
3.								
4.								

Total Zoning Application Fees $_____

1. Value of Dev. Land being Rezoned _____

2. Rate of Demolition Fees x .05

Total Demolition Costs + $_____

TOTAL ESTIMATED OPERATING COSTS $_____

ESTIMATED NET PROFIT

A. Gross Profit

1. Total Estimated Income _____

2. Total Estimated Operating Costs - _____

3. Estimated Gross Profit $_____

B. Tax Depreciation Allowance

1. Maximum Tax Depreciation Allowance _____

2. Desired Tax Depreciation Allowance - $_____*

C. Total Taxable Income $_____

D. Federal and State Income Taxes

1. Total Taxable Income $_____

2. Fed-State Income Tax Rate x $ .55

Total Federal and State Income Taxes $_____

E. Estimated Net Profit

1. Estimated Gross Profit $_____

2. Total Federal & State Income Tax - _____

TOTAL ESTIMATED NEW PROFIT $_____

RECOMMENDED DIVIDENDS $_____

Explanation for Board of Directors: _____

III. CAPITAL EXPENDITURE ESTIMATION

A. Desired Increase in Maximum Production Capacity _____

B. Production Equipment Expansion $_____*

C. Building Expansion $_____*

D. Land Purchases

	Seller*	AA*	Vacant/ Dev.*	Zoning Cat.*	No. of Units*	or	No. of Acres*	Price/Acre Price/Unit*	Total Price
1.									
2.									
3.									
4.									
5.									

Total Land Purchases $_____

E. Pollution Control Equipment

	Process No.*	Control Type	Control Number*	Initial Cost
1.				
2.				
3.				
4.				
5.				

Total Pollution Control Equipment Costs + $_____

TOTAL CAPITAL EXPENDITURES $_____

IV. LOAN ESTIMATIONS

A. Cash on Hand

1. Cash Available $_____
2. 5% Interest on Cash Available $_____
3. Cash Transfers (from others) + $_____

Total Cash on Hand $_____

B. Initial Cash Requirements

1. Property Taxes $_____
2. Loan Payments (currently due) $_____
3. Capital Expenditures $_____
4. Campaign Contributions $_____
5. Cash Transfers (to others) + $_____

Total Initial Cash Requirements $_____

C. Loan Requests

	Years for Repayment*	Amount of Loan*
1.		
2.		
3.		

Total Loan Requests $_____

KEYPUNCH SHEETS

KEYPUNCH FOR APCO ROLE

Cycle Number_____

1. Plant Inspection (PI)

Priority	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15
	I-1	I-2	I-3	I-4	I-5	I-6	I-7	I-8	I-9	I-10	I-11	I-12	I-13	I-14	I-15

2. Emission Measurements (EM)

Priority	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15
	I-1	I-2	I-3	I-4	I-5	I-6	I-7	I-8	I-9	I-10	I-11	I-12	I-13	I-14	I-15

3. Air Quality (AQ)

Particulates (F-1)	SO_2 (F-2)	CO (F-3)	NO_x (F-4)	HC (F-5)

4. Monitoring Stations (MS)

A.A. (I-1)	Type Station (I-2)	Priority (I-3)
		1
		2
		3
		4
		5
		6

A.A. (I-1)	Type Station (I-2)	Priority (I-3)
		7
		8
		9
		10
		11
		12

5. Budget Request (BR)

(I-1)	Pub. Ed. (F-1)	Admin/ Enf. (F-2)	Plant Insp. (F-3)	Emis. Meas. (F-4)	MS/Purchase & Upgrade (F-5)	M.S. Oper. (F-6)
1=(County)						
2=(Fed)						
3=(3YrFed)						

6. Air Pollution Legislation (AF)

				Emission Rates in lbs/hr.				
		Fines		Part.	SO_2	CO	NO_x	HC
	(I-1)	(I-2)	(I-3)	(F-1)	(F-2)	(F-3)	(F-4)	(F-5)
Recom	1	///////	1					
Co. Reg	2		1					
State Reg.	3		1					

	(I-1)	Fines (I-2)	(I-3)	Emission Rates in lbs/1000hrs: Part. (F-1)	SO_2 (F-2)	CO (F-3)	NO_x (F-4)	HC (F-5)
Recom	1	///////	2					
Co. Reg	2	///////	2					
State Reg	3	///////	2					

	(I-1)	Fines (I-2)	(I-3)	Smoke Ring. No. (F-1)	Odor Odor Units (F-2)
Recom	1	///////	3		
Co. Reg	2	///////	3		
State Reg	3	///////	3		

KEYPUNCH FOR DEVELOPER ROLE

Developer Number_____ Cycle Number_____

1. Loan Payment (LP)

Dev. No. (I-1)	Loan No. (I-2)	Amount (F-1)

2. Tax Payment (TP)

Dev. No. (I-1)	Juris. (I-2)	Amount (F-1)

3. Campaign Contribution (CC)

Dev. No. (I-1)	Pol/Bond/Mill No. (I-2)	Amount (F-1)

4. Cash Transfer (CT)

From (I-1)	To (I-2)	Amount (F-1)

5. Exofirm Investment (BI)

Dev. No. (I-1)	Exo. No. (I-2)	Amount (F-1)	Location
			- - - - -
			- - - - -
			- - - - -
			- - - - -

6. Land Transfer (LT)

Seller (I-1)	AA (I-2)	Vac/ Dev. (I-3)	Zone Cat. (I-4)	Buyer (I-5)	No. of Units (I-6)	or	No. of Acres (F-1)	Price/Acre Price/Unit (F-2)

7. Development Costs (DL)

Dev. No. (I-1)	AA (I-2)	Dev. Type (I-3)	No. of Units (I-6)	or	No. of Acres (F-1)

8. Loan Request (LR)

Dev. No. (I-1)	Yrs. (I-2)	Amount (F-1)

KEYPUNCH FOR PLANNER ROLE

Planner Number_____ Cycle Number_____

1. Capital Improvements (CP)

Planner No. (I-1)	Location (I-2)	Project No. (I-3)	Total Cost (F-1)

2. Special Programs (SP)

Planner No. (I-1)	Location (I-2)	Program No. (I-3)	Project in Existence (I-6)

3. Rezoning Application (RZ)

Owner (I-1)	AA (I-2)	Vac/Dev (I-3)	From (I-4)	To (I-5)	No. Units (I-6)	OR No. Acres (F-1)

KEYPUNCH FOR POLITICIAN ROLE

Central City Politician ( ) Cycle Number_____

County Politician ( )

1. City Change in Operating Expenses (UV)

	Pol. No. (I-1)	Category (I-2)	% Total Revenue (F-1)	Amount (F-2)
A	1	1	XXXXXXXX	
B	1	2		
C	1	3		
D	1	4		
E	1	5		
F	1	6		
G	1	7		
H	1	8		
I	1	9		
J	1	10		
K	1	11		
L	1	12		
O	1	17	XXXXXXXX	
P	1	18	XXXXXXXX	

O R

2. County Change in Operating Expendes (UV)

	Pol. No. (I-1)	Category (I-2)	% Total Revenue (F-1)	Amount (F-2)
A	5	1	XXXXXXXX	
B	5	4		
C	5	5		
D	5	6		
E	5	7		
F	5	13		
H	5	15		
I	5	9		
J	5	10		
K	5	11		
L	5	12		
O	5	17	XXXXXXXX	
P	5	18	XXXXXXXX	

3. Normal Operating Millage (RM)

Pol. No. (I-1)	Total Operating Millage (F-1)

4. Cash Transfer (CT)

From (I-1)	To (I-2)	Amount (F-1)

5. Special Grant (SG)

Pol. No. (I-1)	Type (I-2)	Amount (F-1)

6. Land Transfer (LT)

Seller (I-1)	AA (I-2)	Vac/Dev (I-3)	ZoneCate (I-4)	Buyer (I-5)	No. Units or No. Acres (I-6)	(F-1)	Price/Acre Price/Unit (F-2)

7. Bond, Special Millages (BS)

Pol. No. (I-1)	Number (I-2)	Purpose (I-3)	Type (I-4)	Years to Run (I-5)	EOP For/ Against (I-6)	$ (if Bond or Mills) (F-1)	Promotion Money (F-2)	Resubmit (F-3)

8. Capital Improvements (CP)

Pol. No. (I-1)	Location (I-2)	Proj. No. (I-3)	Bond No. (I-4)	Total Cost (F-1)

9. Special Program (SP)

Pol. No. (I-1)	Location (I-2)	Prog. No. (I-3)	Millage No. (I-4)	Proj. in Existence? (I-6)

KEYPUNCH FOR INDUSTRIALIST ROLE

Industrialist Number_____ Cycle Number_____

1. Production Level (PL)

Indust. No. (I-1)	Fuel (I-2)	Emission Cons (I-3)	Control Coms (I-4)	Prod. Level (F-1)	Sales Price (F-2)	Estimated Sales Units (F-3)

2. Land Transfer (LT)

Seller (I-1)	AA (I-2)	Vacant/ Dev. (I-3)	Zoning Cat. (I-4)	Buyer (I-5)	No. of Units (I-6)	or	No. of Acres (F-1)	Price/Acre Price/Unit (F-2)

3. Cash Transfer (CT)

From (I-1)	To (I-2)	Amount (F-1)

4. Pollution Controls (PC)

Ind. No (I-1)	Process No. (I-2)	Control No. (I-3)

5. Loan Payment (LP)

Ind. No. (I-1)	Loan No. (I-2)	Amount (F-1)

6. Tax Payment (TP)

Ind. No. (I-1)	Juris. (I-2)	Amount (F-1)

7. Non-Pollution Expenditure (NP)

Ind. No. (I-1)	Depreciation Allowance (F-1)	Equipment Expansion (F-2)	Building Expansion (F-3)	Plant Maintenance (F-4)

8. Campaign Contribution (CC)

Ind. No. (I-1)	Pol/Bond/ Mill No. (I-2)	Amount (F-1)

9. Loan Request (LR)

Ind. No. (I-1)	No. Years (I-2)	Amount (F-1)

10. Recommended Dividends

_____

KEYPUNCH FOR ISSUE DECISIONS

Cycle Number_____

Issue Number	Alternative Chosen	Bond/Mill No.	Issue Number	Alternative Chosen	Bond/Mill No.

Format: iiia(bbb),iiia,iiia(bbb),....iiia*

iii - issue number
a - alternative chosen
(bbb) - optional bond/mill number

MAXIMUM OF 40 ISSUES PER CYCLE

KEYPUNCH FOR CANDIDATE ELECTION MODEL

Cycle Number_____

INCUMBENTS

Candidate No.	Opponent: Gamed = 1 Sim. = 2	Party Support 1. - 60.	Candidate Name
Col 1-2	Col 3	Col 4-8	Col 9-28
01 (Ward 1)			
02 (Ward 2)			
03 (Ward 3)			
04 (Suburb)			
05 (Twn. 1)			
06 (Twn. 2)			
07 (Co. CC.)			
08 (Co. CC.)			

OPPONENTS

Candidate No.	If Sim. - Opp. Type		Candidate Name
Col 1-2	Col 3	BLANK	Col 9-28
09 (Ward 1)			
10 (Ward 2)			
11 (Ward 3)			
12 (Suburb)			
13 (Twn. 1)			
14 (Twn. 2)			
15 (Co. CC.)			
16 (Co. CC.)			

	Cand. No.	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)
INCUMBENTS	Ward 1									
	Ward 2									
	Ward 3									
	Suburb									
	Twn. 1									
	Twn. 2									
	Co.CC.									
	Co.CC.									
OPPONENTS	Ward 1									
	Ward 2									
	Ward 3									
	Suburb									
	Twn. 1									
	Twn. 2									
	Co.CC.									
	Co.CC.									

	Cand. No.	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)
INCUMBENTS	Ward 1									
	Ward 2									
	Ward 3									
	Suburb									
	Twn. 1									
	Twn. 2									
	Co.CC.									
	Co.CC.									
OPPONENTS	Ward 1									
	Ward 2									
	Ward 3									
	Suburb									
	Twn. 1									
	Twn. 2									
	Co.CC.									
	Co.CC.									

OTHER FORMS

IV. REZONING APPLICATION

A. Owner

Developer #1 ( )	Industrialist #1 ( )	General Market ( )
Developer #2 ( )	Industrialist #2 ( )	Central City ( )
Developer #3 ( )	Industrialist #3 ( )	County ( )
Developer #4 ( )	Industrialist #4 ( )	
Developer #5 ( )	Industrialist #5 ( )	
Developer #6 ( )	Industrialist #6 ( )	
Developer #7 ( )	Industrialist #7 ( )	

B. Analysis Area _____

C. Present Development

Vacant ( ) Developed ( ) Public Bldgs., Park, Etc. ( )

D. Present Land Use

Developed Residential	*Insert No. Units*
R-1 (low density, high cost)	____
R-2 (med. density, med cost)	____
R-3 (high density, low cost)	____
M-1 (low density, high cost)	____
M-2 (med. density, low cost)	____

Developed Non-Residential	*Insert No.* Acres
LS (local shopping)	____
RS (regional shopping, office)	____
I (endogenous industry)	____
O (exogenous industry	____
O (exogenous bureaucratic)	____
A (active farming)	____

Vacant	*Insert No. Acres*
R (single-family)	____
M (multiple-family)	____
C (commercial)	____
I (industrial)	____
O (bureaucratic)	____
A (agricultural)	____

NOTE: ONLY ONE LINE SHOULD BE FILLED IN UNDER "PRESENT LAND USE"

E. Proposed Zoning

R (single-family residential) ____	I (industrial) ____
M (multiple-family residential) ____	O (bureaucratic) ____
C (commercial) ____	A (agricultural) ____

F.

Planners Recommendation		Politicians Decision		Final Outcome
Yes	No	Yes	No	
_____	_____	_____	_____	_____
_____	_____	_____	_____	Cycle Number
_____	_____	_____	_____	_____

Cycle Number_____

NEWS RELEASE

The following should be printed in the APEX Gazette: (please write clearly)

NAME_____ ROLE_____